more, the occurrence of slow-flow, no-reflow, vessel dissection and branch vessel jail are recorded.
Results: Baseline demographics and clinical characteristics, including age, sex, smoking, ect, were similar between the two groups. There were not significantly different in baseline lesion characteristics. The maximum calcium arc and calcium length ratio were (215.9±21.8) and (0.72±0.06) in RA group matched with (226.5±21.6) and (0.78±0.05) in RC group, P>0.05. Before stent implantation, the minimum lumen CSA was (2.52±0.07) mm^2 in RA group and (2.46±0.09) mm^2 in RC group, without difference.The size of RA bur was (1.44+0.02) mm and (1.46+0.01) mm in two groups, P>0.05. The cutting balloon diameter used in RC group was (2.56+0.04) mm. The stent size were (2.93+0.08) mm in RA group and (3.09+0.08) mm in RC group, P>0.05. After RA and RA combined cutting balloon, there were 12 (35.3%) cases in RA group and 26 (56.5%) cases in RC group could see the gaps, P=0.189. Although there was no statistical deference between the two groups, there was a trend in RC group that more cases appear gaps after the adequate plaque modification.After stent implantation, the minimum stent area after stent implantation and acute lumen gain of RC group were significantly greater than that of the RA group ((6.12±0.37) mm^2 vs (5.42±0.24) mm^2, P=0.012; (3.66±0.34) mm^2 vs (2.90±0.24) mm^2, P=0.016). There were no statistical differences in the occurrence of slow flow, no-reflow, branch vessel jail and vessel dissection between the two groups.
Conclusions: Rotational atherectomy combined with cutting balloon for treatment of severely calcified coronary lesions could significantly increase the stent area, acute lumen gain compared with rotational atherectomy alone, without increasing the PCI-related complications.

GW25-e1118

The Influence of Calcium Parameters for Immediate PCI Results: An Intravascular Ultrasound Analysis

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Objectives: This IVUS study was designed to evaluate how calcified parameters (including calcium arc, calcium length ratio and calcium index) influence the results of PCI.
Methods: From January 2012 to October 2012, 105 consecutive coronary artery disease patients who underwent primary angioplasty with IVUS were analyzed in our center. There were 34 no-calcified lesions (no calcium of all lesion segments), 32 light-calcified lesions (calcium length ratio<0.5 or calcium arc<180), and 40 severe-calcified lesions (calcium length ratio≥0.5 and calcium arc≥180).IVUS was performed before percutaneous coronary intervention (PCI) to measured lumen cross-sectional area (CSA), external elastic membrane (EEM), Plaque and media CSA = EEM CSA-lumen CSA. Lumen CSA of every 1 mm of culprit lesion segment was measured and average lumen CSA was calculated. For calcium, we measured maximum calcium arc, calcium length, and calcium ratio (calcium length/lesion length). After stent implantation, IVUS was rechecked to measure minimum stent CSA, minimum and maximum stent diameter, and the reference lumen CSA. Stent symmetry = minimum stent diameter/maximum stent diameter. Stent expansion = minimum stent CSA/ reference lumen CSA. Stent malapposition was defined as insufficiently close contact between some struts and the underlying wall. Stent asymmetry was defined as stent symmetry of at least one section<0.7. Stent underexpansion was defined as stent expansion rate <0.8.
Results: Severely calcified lesions had smaller minimum lumen CSA, mean lumen area, and minimum stent lumen CSA after PCI. And in severely calcified lesions, there was a higher occurrence of vessel dissection, vessel jail, stent malapposition, stent asymmetry, and stent under-expansion. In all calcified lesions, calcium arc has a stronger influence for minimum lumen area (R^2=0.174, P=0.000), minimum stent area (R^2=0.256, P=0.000), acute lumen gain (R^2=0.168, P=0.000), and stent expansion (R^2=0.103, P=0.003) than calcium length ratio (min lumen area: R^2=0.005, P=0.445; min stent area: R^2=0.085, P=0.007; acute lumen gain: R^2=0.074, P=0.012; stent expansion: R^2=0.007, P=0.222) and calcium index (min lumen area: R^2=0.108, P=0.002; min stent area: R^2=0.237, P=0.000; acute lumen gain: R^2=0.167, P=0.000; stent expansion: R^2=0.086, P=0.007). Calcium length ratio has a stronger influence for vessel dissection (OR=7.528, 95%CI 1.395-40.643, P=0.019) than calcium arc (OR=1.005, 95%CI 1.001-1.010, P=0.026) and calcium index (OR=5.647, 95%CI 1.195-26.678, P=0.029). Calcium index (R^2=0.261, P=0.000) has stronger influence for mean lumen area and incomplete stent apposition (OR=19.658, 95%CI 3.233-119.509, P=0.001) than calcium arc (mean lumen area R^2=0.158, P=0.000; incomplete stent apposition OR=1.011, 95%CI 1.004-1.018, P=0.001) and calcium length ratio (mean lumen area R^2=0.236, P=0.000; incomplete stent apposition OR=12.945, 95%CI 1.766-94.913, P=0.012). Vessel loss seemed to have no liner relationship with calcium parameters.
Conclusions: For calcified lesions, we should consider both calcium arc and length. The minimum lumen area, minimum stent area, acute lumen gain, and stent expansion are mainly affected by calcium arc. Stent symmetry and the occurrence of vessel dissection are mainly affected by calcium length ratio. Mean lumen area and stent malapposition are mainly affected by calcium index.

GW25-e2152

Ischemic Postconditioning versus Remote Ischemic Conditioning in Patients Treated with Primary Percutaneous Coronary Intervention: A Bayesian Network Meta-analysis

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Objectives: The aim of present analysis was to compare ischemic postconditioning (IPC) with remote ischemic conditioning (RIPC) in primary percutaneous coronary intervention (pPCI), a network meta-analysis was performed using a Bayesian approach.
Methods: Published randomized controlled trials included either IPC or RIPC in patients with ST-elevation acute myocardial infarction (STEMI) during pPCI were identified though the PubMed, EMBASE, and Cochrane central Register of Controlled Trials database, and the ClinicalTrials.gov database up to December 2013. Outcomes of interest were enzymatic infarct size, infarct size assessed by cardiac magnetic resonance (CMR), complete ST-segment resolution (cSTR) and cardiac events during follow-up. A Bayesian network meta-analysis was performed using WinBUGS 1.43 and R 3.02.
Results: Sixteen studies including results of 1773 IPC and RIPC patients were identified. Pooled results showed no significant decrease in enzymatic infarct size among patients treated with IPC compared to RIPC (standardized mean difference [SMD], -0.17; 95% Confidence Interval [CI], -6.62 to 6.57). Compared with IPC, RIPC tended to reduce infarct size evaluated by CMR. (Mean difference [MD], 2.77%; 95%CI,-6.40% to 12.17%).There was a trend toward more cSTR in IPC patients than in RIPC subjects (odds ratio [OR], 1.54; 95%CI, 0.42 to 4.18). There was no significant difference in mortality (OR, 0.79; 95%CI, 0.02 to 3.53) or reinfarction (OR, 1.05; 95%CI, 0.001 to 4.42) during 1 month to 3.4 years among patients treated with IPC compared to RIPC.
Conclusions: In STEMI patients undergoing pPCI, available evidence from this network meta-analysis suggests the non-superiority of IPC vs RIPC on infarct size, cSTR and incidence of mortality or reinfarction. Further head-to-head investigations are necessary to evaluate the effect of two adjunctive therapies during pPCI.

GW25-e3237

Usefulness of the index of microcirculatory resistance for assessing clinical outcome in short term after percutaneous coronary intervention for sub-acute myocardial infarction

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Objectives: The objective of this study is to evaluate the clinical value of the index of microcirculatory resistance (IMR) for assessing short period prognosis of patients with sub-acute myocardial infarction undergoing elective percutaneous coronary intervention (PCI).
Methods: In 54 stable patients with ST-segment elevation myocardial infarction after 11.1±3.3days from symptom onset, IMR was measured after successful PCI. 28 (52%) patients had normal IMR value (IMR <32U, 19.8±7.3U) and 26 (48%) patients with IMR>32U (60.7±21.9U). Transthoracic echocardiography, 6 minutes walking test and major adverse cardiac events (MACE) were followed up at 39.3±7.23 days.
Results: IMR correlated significantly with 6 minutes walking distances (r =-0.504, P<0.001), but not significantly with left ventricular ejection fraction (LVEF) (r =-0.074, P =0.595). There were no people reoccurred myocardial infarction or stent re-implantation. The re-admission rate of patients with normal and abnormal IMR was 2 (7%) and 6 (23%), respectively (P=0.135). Patients with normal IMR had less recurrence of angina pectoris compared with patients with higher IMR (4[14%] vs. 12 [46%], P=0.016), and IMR demonstrated significant correlation with recurrence of angina (r =0.352, P =0.009).
Conclusions: IMR can be regarded as a predictor of the quality of life of patients with sub-acute myocardial infarction undergoing elective PCI in short term. But it is not reliable in assessing the left ventricular function recovery and MACE in short term.

GW25-e4113

A randomized clinical study comparing using a single MAC guiding catheter with conventional approach via radial artery for coronary angiography and intervention in patients with ST elevation myocardial infarction

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Objectives: Coronary intervention using transradial approach is common worldwide. It is normally necessary to use one diagnostic catheter and guiding catheter in primary percutaneous coronary intervention (PCI) for ST elevation myocardial infarction (STEMI). It is unknown whether using a single guiding catheter for both nonculprit